

**Notice of Allowability**

Application No.

10/695,463

Examiner

John B. Vigushin

Applicant(s)

KISHIMOTO ET AL.

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 09 Jan 2006.
2. ☒ The allowed claim(s) is/are 1 and 3-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

### DETAILED ACTION

1. The present Office Action is responsive to Applicant's Amendment filed January 09, 2006. The Examiner acknowledges the amendments to the Specification, Drawings and Claims 1, 3, 7, 8 and 12. Claims 1 and 3-12 remain pending in the instant amended Application.

### EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

3. As stated in the Remarks on p.15 of Applicant's Amendment, the Applicant intended to introduce the subject matter of Claim 2 into Claims 1, 3 and 8, and has done so. However, a typographical error occurred in amended Claim 8 wherein the Applicant evidently inadvertently recited the subject matter with a line through the text (which would indicate a deletion) instead of the appropriate underline which indicates the newly added text. Also, a lack of antecedent basis defect has been corrected by inserting --layer-- after "source" in Claims 3 and 8. Accordingly, the Examiner has amended Claims 3 and 8 as follows:

In Claim 3, line 19: **--layer--** has been inserted after "source".

In Claim 8, **--coupling a snubber circuit, being a serial connection of a resistor and a capacitor, between said ground layer and said electronic**

**power source layer, and--** has been inserted after line 16 and before the final paragraph (which begins with "mounting").

***Allowable Subject Matter***

4. Claims 1 and 3-12 have been allowed.

5. The following is an examiner's statement of reasons for allowance:

As to Claim 1, patentability resides in *a snubber circuit, being a serial connection of a resistor and a capacitor, is coupled between the ground layer and the electronic power source layer*, in combination with the other limitations of the claim.

As to Claims 3-7 and 8-12, patentability resides in *coupling a snubber circuit, being a serial connection of a resistor and a capacitor, between the ground layer and the electronic power source layer*, in combination with the other limitations of base Claims 3 and 8, respectively.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Claims 1 and 3-12 of the instant allowed Application have been renumbered as Claims 1-11, respectively, for publication in the issued patent.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) In section 13 on p.9 of the previous Office Action of October 21, 2005, the Examiner wrongly identified the second Harada et al. patent as US 6,198,362 B1 when it should have been US 5,966,294. Both references have already been made of record in the instant Application in the Examiner's PTO-Form 892 attached to the above-cited previous Office Action. Accordingly, the Examiner is repeating the descriptions of the two Harada et al. patents below, with the correction of the above-mentioned error, in order to clarify the record:

(i) Harada et al. (US 6,198,362 B1) discloses snubber (series RC) circuits distributed around the periphery of the multilayer board (with outer signal layers 24a,b and inner ground and power layers 22 and 23; col.8: 35-40) in order to suppress EM radiation from the board (Figs. 7 and 8; col.8: 41-67), the snubber circuits enabling EM radiation suppression without costly and bulky EM shields and the use of special board design for use with the EM shields (col.1: 22-25; col.2: 40-49).

(ii) Harada et al. (US 5,966,294) discloses snubber (series RC) circuits distributed around the periphery of the multilayer board (with outer signal layers 44 and inner ground and power layers 42 and 43; col.15: 6-10) in order to suppress EM radiation from the board (Figs. 22 and 23; col.15: 13-19 and 50-67), the snubber circuits enabling EM radiation suppression without costly and bulky

EM shields and the use of special board design for use with the EM shields (col.3: 1-55).


B) Iguchi et al. (US 2002/0176236 A1) discloses a multilayer board with outer signal layers (12, 18) and split inner ground layers (14, 16)—ground layer 14 comprising ground patterns 24 and ground layer 16 comprising ground patterns 28—with power wires 26 and 30 between the split portions of the ground layers (14, 16) (Figs. 1A,B and 2; paragraphs [0101]-[0110]). Iguchi et al. further discloses series RC snubber circuits 134 at the periphery of the upper surface of the board on signal layer 12, one end connected, through a via hole, to main power wire branch 26A and the other end connected, through a via hole, to ground pattern 24 in order to prevent the generation of EMI radiation (Fig. 20; paragraphs [0189]-[0191]). Figs. 21 and 22 show other wiring variations for which snubbers 134 are provided (paragraphs [0192]-[0193]. Iguchi et al. does not teach a housing with a conductive wall to which a ground layer is continuously mounted and does not teach or suggest that such a housing used a shield is necessary for the purpose of preventing EMI in combination with the snubber circuits.

C) Igarashi et al. (US 6,706,964 B2) discloses, in Fig. 5, a multilayer board 400 with a peripheral ground pattern 412 next to and on the same board surface as signal layer 411, a shield plate 430, wherein both the peripheral ground pattern 412 and shield plate 430 are electrically connected to inner ground layer 413 by screws 451 and nuts 452. Power layer 415 is intentionally disposed in the external layer of grounded shield plate 430 (separated from the power layer 415 by insulating sheet 440) in order to stabilize the characteristic impedance of the multilayer board 400 (col.7: 1-40).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Vigushin whose telephone number is 571-272-1936. The examiner can normally be reached on 8:30AM-5:00PM Mo-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John B. Vigushin  
Primary Examiner  
Art Unit 2841

jbv  
March 19, 2006